

CDC Mobile Water Supply Practice Test (Sample)

Study Guide



Everything you need from our exam experts!

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Introduction

Preparing for a certification exam can feel overwhelming, but with the right tools, it becomes an opportunity to build confidence, sharpen your skills, and move one step closer to your goals. At Examzify, we believe that effective exam preparation isn't just about memorization, it's about understanding the material, identifying knowledge gaps, and building the test-taking strategies that lead to success.

This guide was designed to help you do exactly that.

Whether you're preparing for a licensing exam, professional certification, or entry-level qualification, this book offers structured practice to reinforce key concepts. You'll find a wide range of multiple-choice questions, each followed by clear explanations to help you understand not just the right answer, but why it's correct.

The content in this guide is based on real-world exam objectives and aligned with the types of questions and topics commonly found on official tests. It's ideal for learners who want to:

- Practice answering questions under realistic conditions,
- Improve accuracy and speed,
- Review explanations to strengthen weak areas, and
- Approach the exam with greater confidence.

We recommend using this book not as a stand-alone study tool, but alongside other resources like flashcards, textbooks, or hands-on training. For best results, we recommend working through each question, reflecting on the explanation provided, and revisiting the topics that challenge you most.

Remember: successful test preparation isn't about getting every question right the first time, it's about learning from your mistakes and improving over time. Stay focused, trust the process, and know that every page you turn brings you closer to success.

Let's begin.

How to Use This Guide

This guide is designed to help you study more effectively and approach your exam with confidence. Whether you're reviewing for the first time or doing a final refresh, here's how to get the most out of your Examzify study guide:

1. Start with a Diagnostic Review

Skim through the questions to get a sense of what you know and what you need to focus on. Your goal is to identify knowledge gaps early.

2. Study in Short, Focused Sessions

Break your study time into manageable blocks (e.g. 30 - 45 minutes). Review a handful of questions, reflect on the explanations.

3. Learn from the Explanations

After answering a question, always read the explanation, even if you got it right. It reinforces key points, corrects misunderstandings, and teaches subtle distinctions between similar answers.

4. Track Your Progress

Use bookmarks or notes (if reading digitally) to mark difficult questions. Revisit these regularly and track improvements over time.

5. Simulate the Real Exam

Once you're comfortable, try taking a full set of questions without pausing. Set a timer and simulate test-day conditions to build confidence and time management skills.

6. Repeat and Review

Don't just study once, repetition builds retention. Re-attempt questions after a few days and revisit explanations to reinforce learning. Pair this guide with other Examzify tools like flashcards, and digital practice tests to strengthen your preparation across formats.

There's no single right way to study, but consistent, thoughtful effort always wins. Use this guide flexibly, adapt the tips above to fit your pace and learning style. You've got this!

Questions

- 1. What does flow pressure refer to?**
 - A. The pressure when a hydrant is not flowing**
 - B. The pressure in a closed system**
 - C. The forward velocity of water at the discharge point**
 - D. The pressure exerted by static water**
- 2. What should be inspected daily on the MWS apparatus?**
 - A. Pump primer, auxiliary fuel tank, hose lines**
 - B. Pump pressure control device and oil levels only**
 - C. Accumulator levels and strainers only**
 - D. Hose lengths and color coding**
- 3. What does friction loss refer to?**
 - A. The loss of water volume during pumping**
 - B. The amount of pressure lost through various fittings**
 - C. The increase in pressure when water flows through a valve**
 - D. The necessary pressure for hydrants to flow**
- 4. Which test confirms that pump controls are functioning correctly?**
 - A. Vacuum test**
 - B. Pressure control test**
 - C. Pumping test**
 - D. Gauge test**
- 5. What is the primary purpose of the hydrostatic test?**
 - A. To check for engine performance**
 - B. To assess pump efficiency**
 - C. To determine if pump and piping can withstand operational pressures**
 - D. To evaluate fuel efficiency**
- 6. A column of water 1"x1"x12" high exerts how much psi?**
 - A. 0.434 psi**
 - B. 1.0 psi**
 - C. 0.872 psi**
 - D. 1.2 psi**

- 7. Which of the following is NOT one of the four pre-service tests normally done for a Mobile Water Supply (MWS) apparatus?**
- A. Manufacturer's Road Test**
 - B. Hydrostatic Tests**
 - C. Engine Efficiency Test**
 - D. Purchase Acceptance Tests**
- 8. What condition may lead to a loss of control of an MWS apparatus when driving?**
- A. Driving on dry roads**
 - B. Accelerating rapidly on a straight path**
 - C. Traveling at high speeds around a turn**
 - D. Taking gradual turns at slow speeds**
- 9. What type of valve uses a spring-loaded pilot valve?**
- A. Intake pressure relief valve**
 - B. Discharge pressure relief valve**
 - C. Flow control valve**
 - D. Check valve**
- 10. What is the required discharge rate of the tank based on its volume?**
- A. 70% of the tank volume at 500 gpm**
 - B. 90% of the tank volume at 1,000 gpm**
 - C. 80% of the tank volume at 1,500 gpm**
 - D. 100% of the tank volume at 750 gpm**

Answers

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1. C
2. A
3. B
4. B
5. C
6. A
7. C
8. C
9. B
10. B

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Explanations

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1. What does flow pressure refer to?

- A. The pressure when a hydrant is not flowing
- B. The pressure in a closed system
- C. The forward velocity of water at the discharge point**
- D. The pressure exerted by static water

Flow pressure specifically refers to the pressure of water that is actively flowing at a discharge point, which correlates directly to the forward velocity of that water. It is a crucial measurement in hydraulics as it helps determine how effectively water can be transported and utilized, particularly in systems like fire hydrants or water supply systems. When water is flowing, the kinetic energy of the moving water creates a pressure that can be measured at the point of discharge. This measurement is important for understanding how much force is available to push water through hoses, pipes, or other outlets effectively. While other options discuss concepts related to water pressure, they do not specifically capture the dynamic aspect of water movement that flow pressure reflects. The pressure in a closed system and static water pressure are both relevant physical concepts but do not apply to the scenario being defined by flow pressure, which is inherently tied to the velocity of water during active flow.

2. What should be inspected daily on the MWS apparatus?

- A. Pump primer, auxiliary fuel tank, hose lines**
- B. Pump pressure control device and oil levels only
- C. Accumulator levels and strainers only
- D. Hose lengths and color coding

The daily inspection of the Mobile Water Supply (MWS) apparatus is crucial to ensure optimal performance and safety during operations. The correct answer focuses on inspecting the pump primer, auxiliary fuel tank, and hose lines, all of which play significant roles in the overall functionality and readiness of the apparatus. The pump primer is essential for starting the pumping system smoothly without air in the lines, ensuring that water can be moved efficiently. Inspecting the auxiliary fuel tank is vital because it ensures that the equipment has enough fuel for operation, preventing the risk of running out during critical moments. The hose lines need to be checked for any signs of damage, leaks, or wear, as they are critical for delivering water from the MWS to the required locations. Overall, inspecting these components daily helps maintain the reliability and effectiveness of the MWS during firefighting or emergency responses. The other options, although they mention important components of the apparatus, do not encompass the breadth of daily inspections needed to ensure the MWS is fully operational and safe for use. For instance, some focus narrowly on just a few parts, which does not provide a comprehensive check of all necessary systems.

3. What does friction loss refer to?

- A. The loss of water volume during pumping
- B. The amount of pressure lost through various fittings**
- C. The increase in pressure when water flows through a valve
- D. The necessary pressure for hydrants to flow

Friction loss refers specifically to the amount of pressure lost due to the resistance of water flow as it moves through pipes, hoses, and various fittings. This resistance occurs because of the interaction between the water and the internal surfaces of the piping system, which creates friction. As water flows, it encounters this friction, which leads to a reduction in pressure. This understanding is crucial for fire service operations and any scenario involving the transport of water, as it affects the efficiency and effectiveness of water supply systems. The other options misconstrue the concept of friction loss. The loss of water volume during pumping relates to flow rates rather than pressure dynamics. The increase in pressure when water flows through a valve is not indicative of friction but rather represents a change in conditions as the water encounters a constriction or an opening in the system. Lastly, the necessary pressure for hydrants to flow pertains to the operational requirements for hydraulic systems rather than the losses that occur as water moves through the infrastructure. Understanding friction loss is essential for effectively calculating the pressure needed at various points in a water supply system.

4. Which test confirms that pump controls are functioning correctly?

- A. Vacuum test
- B. Pressure control test**
- C. Pumping test
- D. Gauge test

The pressure control test is the correct choice for confirming that pump controls are functioning correctly. This test assesses the pump's ability to maintain the desired output pressure and verifies that the automatic controls respond accurately to changes in pressure. It provides valuable insights into the performance of the pump control system, including whether the control mechanisms correctly activate and regulate flow according to the set standards. In the context of mobile water supply, ensuring that pump controls are operational is crucial for maintaining efficient water distribution and delivery, especially under varying operational conditions. A successful pressure control test indicates that the system is capable of managing pressures effectively, ensuring both safety and efficiency in water supply operations. Other tests, while important for different reasons, do not specifically confirm the functionality of pump controls in the same direct manner. For instance, a vacuum test is used mainly to check for leaks in the system, while a pumping test evaluates the overall performance of the pump, including flow rates but not specifically the control systems. A gauge test might check the accuracy of pressure readings rather than the control function itself. Therefore, the pressure control test stands out as the method that directly assesses the operation of the pump's control mechanism.

5. What is the primary purpose of the hydrostatic test?

- A. To check for engine performance
- B. To assess pump efficiency
- C. To determine if pump and piping can withstand operational pressures**
- D. To evaluate fuel efficiency

The primary purpose of a hydrostatic test is to determine if pump and piping systems can withstand operational pressures. This process involves filling the system with water and applying pressure to ensure that there are no leaks and that the materials can handle the stress they will face during normal operation. By conducting this test, operators can ensure the integrity and safety of the water supply system, which is critical for preventing failures during actual use. Other options focus on different aspects of operational performance. Checking engine performance and evaluating fuel efficiency relate more to the vehicle's or equipment's functionality rather than the structure of the water supply system itself. Assessing pump efficiency involves measuring how well the pump operates, but it does not specifically address the capacity of the pump and piping to endure pressure without failure. Thus, option C is the most accurate choice regarding the purpose of a hydrostatic test.

6. A column of water 1"x1"x12" high exerts how much psi?

- A. 0.434 psi**
- B. 1.0 psi
- C. 0.872 psi
- D. 1.2 psi

To determine how much pressure is exerted by a column of water, you can use the formula for hydrostatic pressure, which states that pressure (in psi) is equal to the height of the water column (in feet) multiplied by the weight per unit volume of water (which is approximately 62.4 pounds per cubic foot). First, it's important to convert the height of the water column from inches to feet because the pressure formula generally uses feet for the height. Since there are 12 inches in a foot, a column that is 12 inches high will be equivalent to 1 foot high. When applying the formula for hydrostatic pressure: - Height = 1 foot - Weight of water = 62.4 pounds per cubic foot The pressure exerted by the water column can be calculated as: Pressure (psi) = Height (ft) x Weight of water (lb/ft³) / Area (ft²). Since the cross-sectional area in this case is 1 inch x 1 inch, converting that to feet gives us: Area = (1/12) feet x (1/12) feet = 1/144 square feet. Now, the pressure at the base is: Pressure =

7. Which of the following is NOT one of the four pre-service tests normally done for a Mobile Water Supply (MWS) apparatus?

- A. Manufacturer's Road Test**
- B. Hydrostatic Tests**
- C. Engine Efficiency Test**
- D. Purchase Acceptance Tests**

The choice identified as the correct answer highlights that the Engine Efficiency Test is not typically included among the four standard pre-service tests for a Mobile Water Supply (MWS) apparatus. In the context of mobile water supply apparatus, the focus of the pre-service tests is to ensure the equipment is functioning properly and meets safety and performance standards before it is put into service. Typical tests include the Manufacturer's Road Test, which assesses the vehicle's handling and overall performance; Hydrostatic Tests to check for leaks and confirm the integrity of the water supply tank; and Purchase Acceptance Tests that validate the apparatus conforms to specified standards and requirements. The Engine Efficiency Test, while important in assessing engine performance, does not specifically relate to the unique operational capabilities of a mobile water supply apparatus in the same way the other tests do. Therefore, it is not classified as one of the four essential pre-service evaluations in this context. Understanding the distinct purposes behind these tests provides clarity on why this particular option stands out as the correct choice.

8. What condition may lead to a loss of control of an MWS apparatus when driving?

- A. Driving on dry roads**
- B. Accelerating rapidly on a straight path**
- C. Traveling at high speeds around a turn**
- D. Taking gradual turns at slow speeds**

Traveling at high speeds around a turn can significantly affect the stability and control of a Mobile Water Supply (MWS) apparatus. When a vehicle navigates a turn, the centrifugal force acts outward, which can cause the vehicle to tip or lose traction, particularly if the speed is excessive. The risk of losing control increases due to the dynamics of weight transfer, which shifts the center of gravity and can lead to rollover or skidding. In contrast, driving on dry roads typically provides better traction, and accelerating rapidly on a straight path does not introduce the same lateral forces that can destabilize the vehicle. Additionally, taking gradual turns at slow speeds reduces the impact of lateral forces, making it easier to maintain control. Thus, high speeds around turns represent a critical scenario where loss of control is more likely to occur due to physics and vehicle dynamics.

9. What type of valve uses a spring-loaded pilot valve?

- A. Intake pressure relief valve
- B. Discharge pressure relief valve**
- C. Flow control valve
- D. Check valve

The discharge pressure relief valve is designed to safeguard a system by releasing fluid when the pressure exceeds a predetermined level. The incorporation of a spring-loaded pilot valve enables precise control of the pressure at which this release occurs. The pilot valve responds to the system pressure, and when it reaches a threshold that exceeds the set limit, the pilot activates, allowing the main discharge valve to open. This mechanism ensures that excess pressure is vented safely, preventing potential damage to the system. Proper functioning of the discharge pressure relief valve is critical in maintaining operational safety and integrity, particularly in high-pressure applications. The design effectively balances the spring tension and the fluid pressure, making it an essential component in pressure regulation.

10. What is the required discharge rate of the tank based on its volume?

- A. 70% of the tank volume at 500 gpm
- B. 90% of the tank volume at 1,000 gpm**
- C. 80% of the tank volume at 1,500 gpm
- D. 100% of the tank volume at 750 gpm

To determine the correctness of the answer regarding the required discharge rate of the tank based on its volume, it is essential to understand the relationship between discharge rates and safety in water supply practices. The correct answer highlights the necessity of maintaining an optimal discharge rate that ensures effective supply while also considering factors such as system capacity, potential demand, and operational effectiveness. A discharge rate of 90% at 1,000 gallons per minute (gpm) suggests a focus on delivering a substantial volume of water efficiently, making it suitable for various applications where rapid and consistent availability is critical, such as in emergency situations. The percentage signifies not just the amount of water dispensed but also aligns with operational standards that prioritize efficiency and readiness. This level of discharge supports immediate response needs without compromising the capacity of the tank, thereby ensuring that a sufficient reserve remains available for subsequent demands. This understanding of discharge rates is crucial in contexts like fire response, emergency water supply, or industrial needs, where the balance between resource availability and demand is vital for operational success.

Next Steps

Congratulations on reaching the final section of this guide. You've taken a meaningful step toward passing your certification exam and advancing your career.

As you continue preparing, remember that consistent practice, review, and self-reflection are key to success. Make time to revisit difficult topics, simulate exam conditions, and track your progress along the way.

If you need help, have suggestions, or want to share feedback, we'd love to hear from you. Reach out to our team at hello@examzify.com.

Or visit your dedicated course page for more study tools and resources:

<https://cdcmobilewatersupply.examzify.com>

We wish you the very best on your exam journey. You've got this!